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TECHNICAL COOPERATION IN EDUCATION

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COVER: Robert M. Knoebel of Pennsylvania State University teaches industry foremen at a summer school session at Taiwan Teachers' College.

THE NEED OF MANY NATIONS

For many new nations of the world—and many centuries-old nations—the need for economic and social progress today is urgent. Yet low standards of living, deficient diets, widespread disease and general lack of skills, limit the energies of millions of people in these so-called "underdeveloped" countries. At the base of all these conditions is lack of education. If rapid progress is to be made, attention must be given to improvement in popular education.

Today technical cooperation programs between the United States and more than 60 other countries and territories are bringing about an exchange of skills and advanced knowledge in agriculture, health, industry, communications and many other fields. These programs are producing impressive results. In 35 of these same countries and territories, American assistance has been asked, and is being given in improvement of educational systems also.

The United States, with more than 138,000 elementary schools, more than 27,000 secondary schools and thousands of colleges, universities and technical schools, has a highly developed educational system. This system is notable for its research, its development of educational theory, its constant experimentation and improvement and, above all, for its practical application to improving day-to-day living.

Yet every educational problem that the United States has faced and dealt with in its history exists somewhere, in some degree, in an underdeveloped country.

Social customs and cultural patterns impose additional handicaps. In Middle East countries, for example, social customs long denied education to girls and women. Diverse languages and dialects hamper education. Ethiopia has more than 50 languages and dialects, although Amharic is the official language of the country. Often training materials for teachers and technical books do not exist in the local language, for the reason that the language, in a sense "underdeveloped" itself,

does not yet have words into which technical concepts can be translated.

Even where there are public schools, colleges and universities, social attitudes have frequently regarded education as being only for the well-to-do. And the education of the well-to-do is designed for the cultivation of literary and social arts, largely unrelated to the development of the nation and the technical needs of the modern world.

Yet national leaders in virtually all the underdeveloped countries are actively aware of the vital need for broad educational programs. To the limit of their resources, these countries are undertaking programs of importance—starting thousands of schools, setting up institutions of higher learning, training educators. Their expenditures, even in joint programs with the United States, exceed the U. S. contribution.

In the main, what these nations seek from the United States is expert advice—the "how to do it" of education.

TECHNICAL COOPERATION IN EDUCATION

The Challenge

ILLITERACY. The first great need of hundreds of millions of people in Latin America, in Africa, in Asia is to learn how to read and write—not necessarily in the Roman letters we use, in Arabic script or in the ideographs of the Far East, but in *any* kind of writing.

Literacy figures in many nations are largely estimates since many countries do not have reliable educational statistics. In certain rural areas of Iran, as recently as 1953, however, only three percent of the population could read and write the language they spoke.

Countrywide figures for Libya show only 20 percent of the population able to read and write. In Peru the figure is 42 percent, in Thailand 50 percent and the figure ranges up to 65 percent in the Republic of China (Formosa) and the Philippines. By comparison, literacy in the United States is nearly 98 percent.

LACK OF SKILLS. In skills, a very wide gap separates the highly industrialized nations of America and Europe and the relatively underdeveloped countries of Central and South America, Africa,

Play time at a demonstration school in Guayaquil, Ecuador. The school represents part of the cooperative educational program in that country.

the Middle East and Southeast Asia. The essential difference between an American worker and an Asian worker, economically speaking, is in the amount each can produce and in what each earns, as expressed in a standard of living, from his labor. In the industrialized nations, where people are generally better educated and productivity is higher, rewards are higher. In the underdeveloped countries, productivity is low, rewards are low.

The problem today is not that of bringing underdeveloped nations up to the level of those now highly industrialized. The problem is one of introducing skills to enable peoples of the underdeveloped countries to use their own labors more efficiently and productively, both to raise their own individual standards of living and to meet the pressing needs of their own countries for increased production. A development process thereby is started that fosters continuing progress.

Agriculture is the occupation of perhaps 80 percent of the peoples of these nations. Yet the paradox is that this chief industry is conducted in a primitive manner and is relatively unproductive, as compared with agriculture in more advanced nations.

Traditional trades and crafts exist in many countries and peoples of the Middle East and Southeast Asia have shown great skill in these. But so far as meeting the needs of the modern world is concerned, training is almost entirely inadequate. Electric lights, telephones, automobiles, tractors, radios, refrigerators, modern plumbing and the like require skills not available, except in a very limited way, among the populations of underdeveloped countries.

LACK OF TEACHERS. Every country of the world has some kind of edueation. It is the amount and quality that are the determining factors. Bolivia has 234 primary grade teachers per 100,000 population and 68 secondary teachers per 100,000 (the United States has 630 teachers per 100,000, for children between the ages of 5 and 17).

Thailand graduates 2500 elementary teachers a year and needs 10,000.

Of 24,000 primary teachers in Peru, it is estimated that half do not have teaching diplomas. In Liberia, 85 percent of elementary teachers have less than a ninth grade education.

Libya, starting as a new nation, had no trained teachers at all and Egyptian, Lebanese and Palestinian teachers who spoke Arabic were brought in. Ethiopia's secondary schools are entirely staffed by foreign teachers, except for teachers of Amharic, and Ethiopian secondary school teachers will not be ready before 1959.

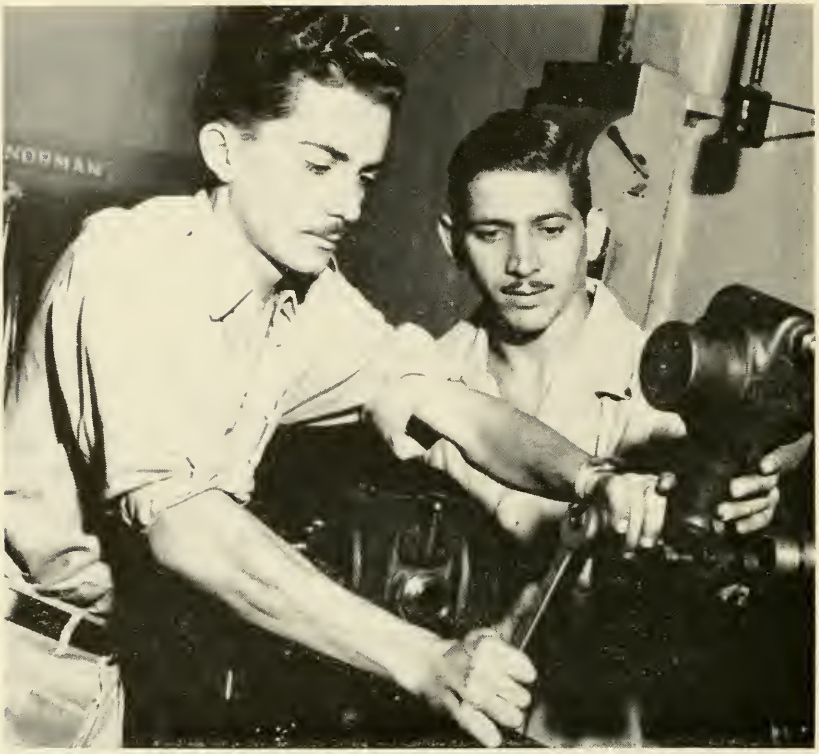
LACK OF BUILDING AND TEACHING FACILITIES. In warmer climates, school buildings may not be as necessary as in our own country. Instruction can be, and often is, held under the open sky or under a tree. But even in many communities where buildings exist, the lack of books, blackboards, slates, pencils, paper is serious. The myriad teaching aids of American schools—maps, globes, posters, pictures, motion pictures, film-strips, recordings—are rarely available.

Normal schools, vocational schools and the like make definite requirements of buildings, teaching materials and laboratory and shop equipment.

CURRICULA, METHODS, PRACTICE. Such things as organized courses of study, education for living, and vocational training are unknown to the great majority of teachers in most underdeveloped countries. Learning is by rote, unrelated to community life; it pays little attention to the needs of the school child and his future as a productive citizen.

The United States a hundred years ago also was unaware of much that it now uses daily for education. What is known today was developed by trial and error, has grown out of the inspired thought of educational leaders, has stood the test of controversy and is still under constant experimentation and extension. The underdeveloped

Many thousands of school buildings are being erected under educational programs of various countries. This new building is in Honduras.



Students in a technology class in Bolivia in a vocational industrial school. United States technicians helped organize the course and helped train teachers.

country does not have to go through all this. It can gain the benefits of advanced knowledge and experience without going through the historical process to get it. In this lies the essence of technical cooperation.

The Attack

In a cooperative educational program between the United States and another country, American education specialists work with local officers in top-level positions. Public education in an underdeveloped country is usually a national program with very little opportunity for local experimentation. It requires proportionally large expenditures of funds and involves organization of elementary schools, secondary schools, normal schools, vocational schools, adult education and other elements into an integrated educational system.

A few countries with special revenues, such as Iraq, can set aside funds for comprehensive programs (Iraq has a $15 million six-year

school budget.) The typical underdeveloped country, however, is wrestling with all the problems of underdevelopment at once and its national resources can be used only sparingly in any one field. Such a country is interested primarily in making the most basic improvements and the most productive ones. Advice of education specialists is therefore particularly needful.

In the 35 countries where the United States is carrying on cooperative programs in education, the role of advising is by far the most important contribution the United States can make. Specialists in education find that they work not only with ministries of education but also with ministries of agriculture, health, labor, industry and others, with private organizations, with industry and with United Nations agencies such as the United Nations Educational, Scientific and Cultural Organization, the Food and Agricultural Organization, and the World Health Organization. The chief emphasis of their

Training in handloom weaving at a vocational school in Rio de Janeiro, Brazil. These teachers will return to the interior to teach arts and crafts to boys and girls.

work is on the cooperative development of educational programs. Some major activities are these:

TEACHER TRAINING. In the long run, normal schools and teachers' colleges will be necessary in underdeveloped countries, as in our own. The sooner these can be established the better. Where normal schools exist, immediate work needs to be done to bring these up to reasonable standard and to train teachers effectively.

With as many as 80 percent of the population illiterate, however, popular education cannot wait until enough new trained teachers are graduated. One answer is in-service training of teachers, making

A group of rural teachers (left) observes and participates in teaching a game to chi
school is included in the total teacher training program of SCIDE (Servicio Cooperativo

better teachers of those already on the job. This is done through workshops or vacation schools. Another device is to set up demonstration schools, whose practices and methods can be copied.

Development of new courses of study and of changes in courses of study is another area in which the American education specialist fills a highly important role.

Raising educational requirements for teaching, establishing better pay schedules and the like are measures to be undertaken only by the local government but the American education specialist can give sound advice in this respect also.

dren at a demonstration school at Villa Ahumada in Honduras. The demonstration Inter-Americano de Educacion).

School health conferences for Lebanon are planned and sponsored jointly by the Lebanese Ministry of Education and the United States technical cooperation mission. In attendance are teachers from villages and towns.

TEXTBOOKS AND TEACHING AIDS. Many millions of school children in underdeveloped countries have never seen a textbook nor possessed one of their own. To an American educator, it seems almost incredible to find children in some schools studying only textbooks about life in a foreign country, simply because no textbooks are available about life in their own.

American education specialists have helped local governments to develop simple textbooks, related to the life of the country and with familiar illustrations, books teaching lessons of better health practices, better agriculture or better community life in the nation itself, along with reading and writing. In many cases, Americans also help train the people who will carry on and continue the work of preparing textbooks.

Creation of professional materials in the local language for training teachers is another activity. These materials may be books, pamphlets, charts, etc. In some technical schools, even this takes too much time and it is sometimes faster and better to conduct English courses, since technical literature in the local language is not available and will not soon be available. It might be noted that formerly it was necessary

Home economics teachers being trained at a summer school in Iran. The demonstration table is designed so that 125 persons can watch the work.

for students in certain fields in the United States to study German or French for a similar reason.

Audio-visual aids have long ago proved their effectiveness in American education. In the underdeveloped countries, American education specialists help prepare films, filmstrips, posters, pamphlets and simple home-made materials to be used in teaching.

ADULT EDUCATION. Even grown people can learn to read and write and do not find it difficult to appreciate information on how to grow a better crop or protect the health of their families. Much work, therefore, is being done in adult education. Teaching the adult has an added advantage in that children do not become ashamed of "ignorant" parents.

VOCATIONAL EDUCATION. Manual training and home economics entered into American education in the 1880's. By 1925, some 93,000 students were taking vocational agriculture courses, 429,000 were enrolled in trade and industry courses and 154,000 were studying home economics. By 1951, these figures had jumped to 771,000 for vocational agriculture, 792,000 for trade and industry courses and 1,458,000 for home economics. This illustrates the growth and direction of American vocational education.

R. L. Amsberry, U. S. education specialist in Iran, presents a certificate to an Iranian peasant who attended all classes in one of the village adult education programs. Teaching is done by Iranian technicians.

By contrast, in the whole of Paraguay, for instance, with a population of a million and a half, there is but one civilian vocational school, set up under technical cooperation with the United States. Although India has had home science courses for many years, it was only in 1954 that the first class taking a full four-year home science course was graduated. Today with U.S. Government and Ford Foundation assistance, India is developing a nationwide home science program intended to reach out into the villages.

TRAINING. In order that educational leaders may study advanced systems, provision is made for training grants in the United States and in other countries. This enables the leaders to adapt whatever is useful to their own countries. Since cultural patterns, level of advancement and standards of living are often in contrast to those of the United States, regional training also is undertaken under U. S. sponsorship. Trainees in the Far East, for example, can study in Manila; others from the Middle East in Beirut and Latin American trainees in Puerto Rico.

UNIVERSITY CONTRACTS. More and more the United States has sought to bring together educational institutions of our own country and those of underdeveloped countries. Under government

sponsorship, American educational institutions agree to undertake specific tasks, such as developing agricultural extension programs or setting up schools of business administration or developing scientific and technological courses. As of May 3, 1955, 63 such contracts were in operation with institutions of 31 other countries.

Examples of far-reaching consequences are association of the University of Nebraska with the new Ataturk University in Turkey, in which Nebraska is helping to develop schools of agriculture, engineering, business administration and education; a project whereby Columbia University is surveying the entire needs of Mexico for technologieal experts and the capacities of Mexican institutions to produce them; the association of Bradley University with development by the Government of Iraq of a two-million dollar technical institute, intended to be the outstanding institution of its kind in the Middle East.

These are only some of the major features of the educational approach in technical cooperation. Actually everything that an American education specialist has learned, has heard of or read about is of use to him abroad. No field of technical cooperation has wider diversity or involves more fields of specialized knowledge. American education specialists are finding that since each country presents individual problems, they themselves are gaining important field experienee.

The Results

The major results of education programs are intangible ones. Certainly the most important one, where it has occurred, is a change in educational philosophy. In our own country this came in about 1900, when our education turned from emphasis on subject matter to the needs of the child himself. Many countries are at that point today. How well the change is made, how well education becomes education for living, will determine to a great extent the future of democraey in these countries.

A survey of 22 countries, over the last three years* shows the following facts and figures:

TEACHER TRAINING. Technical cooperation projects have helped to give pre-service training to more than 17,000 teachers; in-service training to more than 46,000. Trained in the United States were 558 foreign educators, trained in regional programs 2168. More than 1200 teachers institutes or vacation workshops have been held, 621 demonstration schools set up.

* Technical cooperation in education in Latin America extends over the past decade.

With American advice, elementary teaching requirements in Lebanon have been raised from two years' training to three for a teaching certificate. In the Philippines, the traditional two years' requirement has been raised to four. In Peru, teachers now have to have four years' training, instead of three, to get the highest degree. In Iran a joint education program has resulted in countrywide teacher training requirements for the first time—no teacher now can teach without at least one year of professional training.

TEXTBOOKS, TRAINING AIDS. American specialists have helped to develop 143 different textbooks, copies of which have been distributed to 751,000 children; they have helped prepare 1138 professional materials for 216,000 teachers. American financial support has helped equip 513 libraries, most of them in schools.

VOCATIONAL EDUCATION. More than 13,000 persons have been trained in short courses in the Sao Paulo area in Brazil, more than 25,000 in short courses in Iran. A three months' technical training course at one Tehran foundry resulted in a 100 percent increase in production.

American aid has added equipment to 108 school science laboratories, 518 shops, 163 home economics departments, 265 crafts and other school programs. In the Philippines, assistance has been given

Children at a Bedouin tribal school in Jordan. Such schools represent Jordan's first effort to educate tribal peoples.

to 38 vocational agriculture schools, 34 trade schools. In Israel, equipment has been provided for 10 trade schools.

Special Cases

On December 30, 1954, at Beersheba in Israel, American Ambassador Edward B. Lawson took part in dedication of the new Vocational Training Center, the first of six to be established in the country under the Israel-America program. Built to meet a critical shortage in skilled workmen, the Center itself was under construction 12 months, rather than the average of seven or eight months, because of the lack of the same skilled workmen the school will train. The first class of 45 students started their training last December.

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In Ethiopia, the Jimma Agricultural Secondary School, operated by Oklahoma A. & M., opened for students on October 13, 1952, the first school of its kind in the nation. Initial enrollment was 79 but facilities were enlarged to accommodate 140. For the fall term in 1953, 437 boys applied. One boy, eager to enroll, traveled 800 miles, most of the distance on foot. When he applied he had not had food

Children at a school in Peru where advanced methods are used.

for two days. After a few days' rest, he took the examination, passed it, was admitted.

* * * *

In Paraguay, the only civilian industrial school graduated its fourth class in 1954. All 154 graduates have been placed immediately in industry. At first all instruction had to be carried out by American teachers, who helped set up the school, organize the curriculum and train the teaching and administrative staff. Now the staff is entirely Paraguayan. Courses are given in automotive mechanics, radio, refrigeration, carpentry, leatherwork, plumbing, blacksmithing.

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In Jordan, two demonstration schools for nomadic Bedouin boys were established in the desert. This is the first time an educational program has ever been attempted in Jordan for these illiterate, nomadic peoples.

* * * *

In Iran, 73 tribal schools for children of nomadic tribes have been set up in tents and go with the tribes as they migrate. In one case, after seven months' schooling, all children passed first grade examinations, a large number passed second grade tests and some bright pupils passed third grade. Tribal chieftains were so enthusiastic they wanted to hold school eight hours a day, seven days a week. The American contribution amounted to $20,968, the tribes themselves contributed the equivalent of $45,384 in salaries, transportation, water-bags and food. Often the tribes contributed clothing for teachers.

* * * *

In Lebanon, under a university contract, a team from Isaac Delgado Trade School in New Orleans is assisting the Ecole des Arts et Metiers, the government technical school, in conducting courses and training teachers of foundry work, auto mechanics, radio and technical engineering. Also in hotel management, since Lebanon has a large tourist trade.

* * * *

The industrial education program in Brazil started in 1946. Since then 1500 teachers and supervisors have been trained in Brazil and 120 came to the United States for training; 87 textbooks and manuals have been produced and more than 600,000 distributed; new teaching methods have been introduced in 23 federal and state vocational schools.

* * * *

The rural education program in Bolivia is a good example of how

dynamic and functional education programs make schools more influential in the lives of the people. In the normal school at Warisata, curriculum and teaching methods have been revised and teaching material related to real life situations. School gardens provide basic lessons in sound agricultural practices. Vegetables from the gardens are used for school luncheons and lessons in nutrition. Pupils are taught how to use the meager resources of the altiplano (high plateau) region in making school and home furniture, pottery and rugs. Development of these handicrafts will help to round out the economy of the region.

* * * *

The myriad problems of improvement and the many approaches are indicated in this report from a technician in Ecuador:

"Our first undertaking was in the Normal School itself at Uyumbicho. This Normal is set within a farm of 155 acres of rich soil. There were 60 milk cows, a few pigs and chickens, some planting, some production but everything was poorly cared for, unorganized and constantly being pilfered. The school itself was just as poorly organized. Classrooms were in miserable condition, dirty, poorly lighted and ventilated. Drinking water and water for cooking, bathing, washing was carried from a nearby ditch. Students lived any place on the farm or in the village. Teachers were careless about attendance, indifferent and poorly trained. There were no blackboards, tools, few books and no teaching materials. Yet the Normal had great possibilities. This was in 1952-53.

"By the end of 1954, this Normal School had been transformed into a good, effective center for the training of students in practical education and for the preparation and training of rural elementary teachers who can be placed in the surrounding communities or anywhere else in the world.

"We first tackled the improvement of the curriculum, methods of teaching, sanitation, the buildings and farm production. A dormitory housing 200 boys was repaired—the girls are still living in the village; showers, lights, flush toilets, lavatories and lockers were installed. A water supply system was built by digging a 115-yard horizontal tunnel into the mountain side and constructing a tank. . . . Electricity was carried from the village of Uyumbicho. A temporary kitchen and dining room were constructed, classrooms were repaired or remodeled; furniture for classrooms and dormitories was constructed, much of it by students in the manual arts classes.

"Barns, poultry houses, pig pens and rabbit hutches have been remodeled or reconstructed. Facilities have been developed on the

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grounds for the production of adobes, brick, tile, lumber and wood. These are being used for the construction of new buildings. . . .

"On the academic side, equal improvement has been made. The Ministry of Education has been taking a very active interest in securing teachers, granting recommendations and permission to make curricular changes. The pre-service teacher training period has been lengthened from four to six years, giving us a longer time in which to educate and prepare teachers for their work. Eleven Ecuadorian teachers, including the Director of the Normal Schools, were sent to American universities for long or short-term scholarships in 1953 and 1954. These have returned recently and four of them are now teaching at the Normal School.

"The curriculum has been changed from a rigid academic program to a more practical program for rural students and teachers but containing all the subjects required by the Ministry of Education and with courses in agriculture—using the farm as a laboratory—and in manual arts. Botany and zoology are taught in relation to agriculture and rural life. Some attempts have been made to teach home economics, cooking and food preparation but lack of equipment, personnel and funds have hindered this development. . . .

"A reading room and library of more than one thousand books—professional, leisure reading, magazines and daily papers—has been organized, catalogued according to the Dewey Decimal System and supervised by a full-time trained librarian. Students and teachers have been taught how to use the file cards and the library.

"Student living is now supervised, student activities and organizations have been formed, a small store, a barbershop and shoe-shine parlor have been organized under student management.

"*There is still much to be done. . . .*"